



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

400 Seventh St., S.W.  
Washington, D.C. 20590

**MAR 22 2001**

DOT-E 3121  
(THIRTEENTH REVISION)

EXPIRATION DATE: February 28, 2003

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Department of Defense  
Washington, DC

(See Appendix A to this document for a list of additional grantees)

2. PURPOSE AND LIMITATION:

- a. This exemption authorizes the transportation in commerce of certain poisonous material in DOT Specification MC 338 cargo tanks. This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.

- b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce.

3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.

4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 172.101 (Column 8(c) in that MC 338 cargo tanks are not authorized for the material.

5. BASIS: This exemption is based on the application of Department of Defense dated January 31, 2001, submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

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Proper Shipping Name/ Hazardous Materials Description	Hazard Class/ Division	Identi- fication Number	Packing Group
Dinitrogen tetroxide	2.3	UN1067	PIH Hazard Zone A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a specially designed cargo tank motor vehicle designed and fabricated in accordance with DOT Specification MC 338(\$ 178.338) and as follows:

1. Each cargo tank motor vehicle must conform with the following engineering documents on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA): Process Engineering, Inc. drawings B-27621, Rev 3, dated September 6, 1990; B-27626, Rev 1, dated September 13, 1990; C-33055, Rev 1, dated October 1, 1990; C-33066, Rev 1, dated October 2, 1990; and D-44365, Rev 3, dated October 2, 1990; and Process Engineering, Inc. product specification Model ST-27SN204, revision dated September 28, 1990.

2. The minimum design pressure for the cargo tank is 300 psig.

3. Cargo tanks must be constructed so as to achieve thermal conductance between the inner vessel and the atmosphere of not more than 0.08 Btu per square foot per degree Fahrenheit differential per hour, determined at 60°F.

4. The sliding protective housing must be so designed as to present no flow restriction to vapor discharged from the pressure relief valve. The pressure relief system must communicate directly with the vapor space inside the manway cover. The isolation valve between the pressure relief valve and the vapor space must be locked in the open position except during maintenance operations on the pressure relief valve.

5. Outlet and inlet valves must be closed by use of blank flanges or pipe caps so as to be gas tight at all times while the cargo tank is in transit on public highways.

6. An emergency closure kit must be provided to control leaks in fittings on the dome cover plate. At a minimum, this kit must be equivalent to the requirements of § 178.337-10(c).

b. TESTING - Each tank must be reinspected and retested in accordance with § 180.407 as required for DOT Specification MC-338 cargo tanks. Test pressure must be one and one-quarter times the maximum allowable working pressure (MAWP). Pneumatic retesting using nonflammable gas (e.g. nitrogen or helium) is authorized.

c. OPERATIONAL CONTROLS -

1. The motor carrier must equip each unit with a fire retardant blanket, which must be readily available for use in protecting the cargo tank from heat in event of a tire fire.

2. Outage and filling must be in accordance with § 173.24b.

3. Prior to and after each loading and unloading operation, each cargo tank must be subjected to the inspection checklists HQ-SA-ALC SFSP Numbers 3 and 4. The inspection checklist must be retained at the inspection facility for at least 2 years.

4. Cargo tank vehicles while loaded, and where feasible, must not be parked, even though attended, on any public roadway, or within 500 feet of any bridge, tunnel, dwelling, building, or place where persons work, congregate, or assemble.

5. Two drivers, meeting the qualifications described below, must be assigned to each cargo tank motor vehicle. Shipments must be transported from origin to destination without lay-over en route, except for necessary rest stops of short duration. The vehicle must be attended at all times by a driver, or other responsible and qualified representative of the motor carrier, shipper, or of the Department of Defense. Drivers and other attendants accompanying each shipment

must be informed of the characteristics of the material being transported and of its inherent dangers, and must be fully instructed in the measures and procedures to be followed to protect the public from these dangers in the event of accident or emergency, using the training manual "Nitrogen Tetroxide Trailer Drivers Instructions", published and maintained by the SA-ALC/SFSP, Transportation Section. Additionally, drivers must meet and are subject to all requirements of 49 CFR 383, 391 and 392. Further, they must meet the following requirements:

(i) Age - Not less than 25 years old.

(ii) Experience

(a) Three years driving experience in the transport of hazardous materials classified Poisonous or Poison Inhalation Hazard; this experience may be obtained with one company, or with several companies.

(b) Five years experience driving semi-trailer vehicles.

(c) Two years experience driving semi-trailer cargo tank motor vehicles.

(d) Driver must permit the release of and carriers must submit driver's name, social security number, date of birth, license number(s) and other necessary information to an agency (including state license bureau's) or driver's license registry service.

6. Carrier must maintain a safety rating, as assigned by the Office of Motor Carrier Field Operations (OMCFO), Federal Highway Administration, of "Satisfactory", this must be pursuant to the procedures specified in 49 CFR Part 385.

7. The motor carrier must furnish to drivers of each cargo tank motor vehicle written instructions, showing the route to be taken from point of origin to destination, which must be planned insofar as practicable so as to avoid congested thoroughfares, street car tracks, tunnels, viaducts, dangerous

crossings and places where crowds assemble. Such instructions must designate the places where stops are to be made for fuel and meals, as well as the procedure to be followed to assure that the cargo tank motor vehicle is attended at all times until delivery to the consignee is accomplished.

8. The Department of Defense must have an operational emergency response plan for nitrogen tetroxide highway transportation routes. This emergency response plan must be fully in accordance with the "Multi-Product Emergency Response Plan for Inhalation Hazards" (MPERP) dated February 18, 1999, promulgated by the San Antonio Air Logistics Center, Directorate of Aerospace Fuels Management, Kelly Air Force Base, Texas 78241-5603. This plan must include orientation training, mitigation demonstration and static display, tabletop exercises and notification tests as set forth in Section F. of the MPERP. A copy of the exercise results and evaluation must be submitted to the OHMEA within 45 days of exercise completion and prior to the next renewal of the exemption.

9. The designated routes must be reviewed periodically. The renewal application must contain a certification that the designated routes have been reviewed and remain the safest practicable route, taking into account as a minimum the criteria specified in § 397.9.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who receives a package covered by this exemption may reoffer it for transportation provided no modifications or changes are made to the package and it is reoffered for transportation in conformance with this exemption and the HMR.

b. Each tank must be plainly placarded "POISON GAS" and "OXIDIZER" and marked "INHALATION HAZARD" in letters at least 3-1/2 inches in height on each side of the tank near the placards. In addition, each tank must be marked on the right side near the front, in letters at least two inches high on a contrasting background "DOT-E 3121."

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each motor vehicle used to transport packages covered by this exemption.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
  - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when this exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:



Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

MAR 22 2001

(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.  
Attention: DHM-31.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Copies of exemptions may be obtained from the AAHMS, U.S. Department of Transportation, 400 7th Street, S.W., Washington, DC 20590-0001, Attention: Records Center, 202-366-5046.

PO: KFW

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Continuation of DOT-E 3121 (13th Rev.) Appendix A

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The following are hereby granted party status to this exemption based on their application(s) submitted in accordance with § 107.107 or § 107.109, as appropriate:

Company Name City/State	Application Date	Issue Date	Expiration Date
National Aeronautics & Space Administration Washington, DC	Mar 16, 2001	MAR 22 2001	Feb 28, 2003



Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety